U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

In re:	)	
	)	
Emergency Medical Equipment	)	Docket No. FAA-2000-7119
	)	
	)	Notice No. 00-03
	)	

Comments of Continental Express, Inc.

Continental Express, Inc. submits these comments in response to the Notice of proposed rulemaking published in the Federal Register and cited above. The FAA is proposing to add new subpart X to 14 CFR Part 121, revise certain existing regulations related to emergency equipment and crewmember training, and revise existing 14 CFR Part 121, Appendix A. The rulemaking proposes to add certain medication and medical equipment to the existing emergency medical kit described in Part 121 Appendix A, add additional emergency equipment to the emergency equipment presently required by section 121.309, and add new crewmember training requirements to those existing Part 121, subpart N.

I

REGULATORY OBJECTIVES

The proposed rulemaking is intended to modify the regulations and enact provisions that are designed to provide the option of treatment for passengers who suffer serious medical events during flight time. To accomplish this objective the FAA is proposing to require the installation of automated external defibrillators (AED) on aircraft that require at least one flight attendant and augment the contents of the currently required emergency medical kit. Air carriers will also be required to provide familiarization training to all crewmembers on the new equipment and train flight attendant crewmembers on how to use the AED, perform CPR, and operate the enhanced medical kit. The medical equipment and crewmember training will be in addition to current requirements. Installation of the proposed equipment and crewmember training will be mandatory, but the decision to offer or not offer treatment will be optional and discretionary with individual air carriers.

II

IMPACT ON OPERATORS OF SMALLER AIRCRAFT

The FAA is proposing to apply these regulations to aircraft that require one or more flight attendants. Airplanes with as few as 10 passenger seats are required by 121.391 to have a flight attendant. The FAA has based its justification for this proposed regulation on saving up to 55 lives over 10 years. The FAA has not factored airplane size or route length into its justification. The probability of a having a passenger who may suffer a medical event while on board a small airplane operating a short flight segment is much lower than the probability of a having a passenger who may suffer a medical event on a large airplane operating a long flight segment. The FAA's justification is based on industry aggregate data and assumes an equal probability of occurrence for all air carrier flights without regard to the number of passengers that may be on board the airplane or the length of the flight being operated. Clearly the benefits that may be realized from this proposal diminish significantly with airplane size, load factor, and stage length while the equipment costs remain the same or are higher.

Continental Express will be operating a fleet of 210 aircraft with an average seating configuration of 46 passenger seats. All of these airplanes will require one flight attendant. Regional air carriers operate smaller airplanes on shorter routes with lower load factors as compared to major air carriers. We estimate our total enplanements, over the next 10 years, to be 90 million passengers. The FAA has estimated that the proposed regulations will change the outcome of a serious medical event for one passenger per 139 million enplanements. It follows that Continental Express may use the proposed equipment to treat one passenger every 15.4 years.

Continental Express operates as a Domestic air carrier in the 48 contiguous states with transborder flights into Canada and Mexico. We do not conduct any extended overwater operations. Our average flight time per segment is 1.08 hours. Seventeen percent of our segment time (block to block time) is spent during taxi. Virtually all of our routes, with the exception of the very short segments[1], have airports that are available for diversion in the event of a medical emergency. Any serious inflight medical emergency will always result in a landing at the nearest suitable airport. No amount of aircraft emergency medical equipment or crewmember medical training will ever achieve the level of treatment that can be provided by trained medical professionals using ground based treatment facilities. Timely access to suitable medical treatment is crucial insofar as survival is concerned. Generally, in our operating system, any flight can land at a suitable airport (return to point of departure, continue to the destination, or divert) in less than 15 minutes following the occurrence of a serious medical event. None of our aircraft will require more than one flight attendant. It is unreasonable to expect a single flight attendant to attend to a stricken passenger while simultaneously performing the duties associated with approach and landing. The logistics of medical treatment are limited by the physical space in

[1] The shortest route in the Continental Express system is 13 minutes in length.

the cabin that can be used for treatment. Our aircraft have limited galley and aisle space and the rest of the cabin is configured with passenger seats. It is not possible for a single flight attendant to provide emergency medical treatment to a collapsed passenger within the confines of the aircraft cabin while the aircraft is being maneuvered for a landing.

III

CREWMEMBER TRAINING

Regional air carriers have higher crewmember attrition rates than major air carriers. Higher rates of attrition will increase the relative training costs associated with the FAA's proposal for regional air carriers. The FAA has proposed training requirements that will be in addition to existing requirements. The additional training will be required in four areas:

1) General familiarization training for all crewmembers on the new equipment,
2) CPR training for flight attendants to (American Red Cross) standards,
3) AED training for flight attendants to (American Red Cross) standards, and
4) Training for flight attendants on the "operation" of the enhanced emergency medical kit.

The American Heart Association and the American Red Cross both offer training courses that are intended to certify a person to perform adult/child/infant CPR and operate an AED. Successful completion certifies a person to provide care for breathing and cardiac emergencies, including performing CPR, and safely using AED for victims of sudden cardiac arrest. The certification is valid for one year. Information obtained from the American Red Cross shows that this training is 7.0 classroom hours[2].

The FAA has proposed that the additional training would "*conform to national programs conducted for ground-based trainees who initially certify and recertify in CPR procedures and AED usage*"[3]. The FAA has stated that this training should be accomplished every 24 months. The validity period (re-certification period) for American Red Cross and American Heart Association certification courses is 12 months. There appears to be a conflict within the FAA's proposal insofar as the training standard and training interval are concerned. We request additional information from the FAA as to whether the FAA expects the training to conform to the standards set by the cited national programs, or whether the FAA expects the training to be accomplished at 24-month intervals.

The proposed regulation requires training for flight attendants on the operation of the enhanced emergency medical kit. Current regulations require "familiarization" training and that training is generally limited to subjects such as location, procedures for soliciting assistance from

---

[2] The American Red Cross course titled "*Adult CPR and Automated External Defibrillator*" is 4.5 hours. Child and infant training is an additional 2.5 hours.

[3] See NPRM discussion: SUBPART X - EMERGENCY MEDICAL EQUIPMENT AND TRAINING

medically trained passengers, and assisting medically trained passengers who may volunteer to provide emergency medical treatment. All of the training proposed in this rulemaking insofar as operation of the emergency medical kit is concerned will be in addition to the training currently provided. We are unaware of the availability of training courses addressing EMK operation. However, at our request, The American Red Cross reviewed the contents of the medical kit and suggested that 8.0 hours of classroom instruction would be needed to satisfy the requirements in the FAA's proposed rulemaking. The FAA's proposal, as written, will add two days of training for all flight attendants for each category of training[4].

The estimated additional cost associated with the FAA's proposal for flight attendant crewmember training is shown in the table below. The cost estimate is based on the additional training being accomplished in conjunction with other required training.

Additional Training Cost per Flight Attendant To Comply with Additional Training Requirements		
Description	Cost or Other Basis	Total Item Cost
15 hours of classroom instruction (2 days) per flight attendant	4.0 hours flight pay credit per day of training @ $28.00/hour	$224.00
One night hotel cost incl. taxes and transportation to/from training facility	$94.00/night per flight attendant	$94.00
Per diem allowance	$32.40 per day/flight attendant for two days	$65.00
Total cost per flight attendant per training event to comply with the new training requirements		**$384.00**

The additional training cost associated with the FAA's proposal will be $384.00 per flight attendant per training event. The training requirements will be associated with initial and recurrent training cycles (training event).

Average attrition within the flight attendant workforce is projected to be about 20% per year. The following table describes the 10-year cost associated with the additional training requirements in order to comply with the proposed regulation. These cost estimates are based on being able to accomplish the additional training during training events that are currently required so that the training event is longer but separate training events for emergency medical training will not be required. The cost will be higher if separate training events are required

[4] The categories of training are initial new-hire, initial equipment, transition, recurrent, and re-qualification.

because flight attendants will have to travel to/from their base for training. The table below does not include any cost for travel to/from base.

10-Year Flight Attendant Training Cost		
Description	Cost or Other Basis	Total 10-year Cost
Initial Training for All Flight Attendants (one time)	$384.00/flight attendant 1050 flight attendants	$403,200
Recurrent Training for each Flight Attendant Every 24 Months[5]	4200 training Cycles over 10 Years for 1050 Flight Attendants @ $384.00/cycle	$1,612,000
Additional Initial Training Based on 20% Rate of Attrition/year	210 Training Cycles per Year @ $384.00/cycle	$806,400
Total 10-year Flight Attendant Training Cost Associated with Proposed Regulation		**$2,821,600**

IV

EQUIPMENT

The proposed regulation will require the installation of one AED in each airplane and the existing emergency medical kits must be upgraded to add medical supplies and equipment. The 10-year cost for these enhancements is detailed in the table below. The existing emergency medical kits cannot be modified to include the additional medication and equipment. There will be a one-time replacement cost associated with removing the old kit and installing a new kit. The new kit is larger than the old kit and a minor modification (2 man-hours/aircraft) will have to be made to the aircraft before the new kit can be installed. This cost is included in the initial installation cost for the enhanced EMK.

10-Year Equipment Cost AED Units and Enhanced Emergency Medical Kit		
Description	Cost or other basis	Total 10-year cost
One AED unit per airplane – initial equipment cost and labor cost (4.0 hours)	$3,500/airplane (AED kit) $35.00/hour labor	$764,000
Maintenance costs for AED	30% per year per AED unit	$2,210,000
Enhanced emergency medical kit installation (2.0 hours labor and kit)	$30.00/kit for additional medication and medical equipment $35.00/ hour labor	$21,000

[5] The proposed regulation will require training every 24 months. However, the FAA has also stated that the required training should "conform to national programs" for ground-based employees. Red Cross and AHA courses are valid for 12 months. If the proposed training conforms to national programs (12 months), the flight attendant training cost will be an additional $1,612,000.

Enhanced emergency medical kit maintenance cost (difference between new and old requirements)	30% per year per kit (difference between new and old requirements) - $10.00/year/kit	$21,000
Total 10-year cost associated with compliance with new regulations		**$3,016,000**

Continental Express will incur a total cost of $5.838 million over 10 years that will be associated with compliance with the proposed regulations. During that time, we estimate that we will board 90 million passengers. The FAA has estimated that one passenger life may be saved for every 139.02 million passengers boarded. Based on the FAA's estimate, Continental Express will incur a cost of $8.98 million per life saved. This estimate is 360% higher than the FAA's estimated $2.5 million per life saved and illustrates the disproportionate cost/benefit for carriers operating smaller regional aircraft.

V
OTHER AREAS

The proposed rulemaking will require air carriers to equip their airplanes and train their crewmembers. However, the option to provide medical services to stricken passengers will be left to each individual air carrier. The Aviation Medical Assistance Act of 1998 directed the FAA to take certain action. The Act also included a "Good Samaritan" provision that limits air carrier's liability in obtaining medically qualified non-employee passengers to assist stricken passengers and limits non-employee passenger liability for providing assistance during an in-flight medical event. We do not know if the same "Good Samaritan" provision extends to employees (flight attendants) who may provide medical assistance to passengers during an in-flight medical event. The FAA's benefit analysis assumes that flight attendants will actually provide emergency medical treatment for at least 17% of the medical events that occur on-board airplanes. The FAA's analysis of the proposed rulemaking states that medical assistance was available for 83% of the medical events that occurred during the data collection period between July 1, 1998 and June 30, 1999. In order to reach the conclusion that the proposal will save as many as 55 lives over 10 years will require flight attendants to perform emergency medical services on-board the airplane in the 17% of events where professional medical assistance will not available[6]. It is not

[6] The FAA's analysis assumes an AED survival rate of .7193 per hundred million enplanements and applied to the estimated 7.5819 billion enplanements over 10 years resulting in 55 lives being saved. The benefit cannot be achieved if the AED is not used. If professional medical assistance is not available (17% of occurrences), the flight attendant must provide emergency medical treatment. Otherwise, the benefit of the FAA's proposal will be 83% of the stated benefit (46 lives saved).

likely that employees, or employee unions, or air carriers will elect to provide emergency medical treatment to passengers unless some form of “Good Samaritan” provision is applicable to individual employees and air carriers.

VI
PROPOSED REGULATIONS

(1) 121 Subpart X – General Comments

The creation of new Subpart X, and the revision or deletion of existing regulations is unnecessary and cumbersome. This proposal will create significant inconsistency between the regulations the FAA is proposing to add or move to new subpart X and the regulations the FAA is proposing to leave intact in other subparts and sections. Creating a new Subpart with two sections that address subjects that will remain in other existing subparts and sections will fragment the regulatory requirements, create confusion concerning the proposed and existing requirements, and add unnecessary complexity to an already complex set of requirements.

(2) 121.801 Applicability

This new section describes the applicability of the proposed new Subpart X. It makes it clear that proposed Subpart X is applicable to all certificate holders operating passenger-carrying airplanes. This section, and this new subpart, impose additional aircraft equipment requirements, and additional training requirements. Aircraft equipment requirements are, and will continue to be, the subject of existing subpart K. Crewmember training requirements are, and will continue to be, the subject of existing subpart N. Any additional emergency equipment requirement should be incorporated into existing subpart K and any additional crewmember training requirement should be incorporated into existing subpart N.

(3) 121.803 Emergency Medical Equipment

The language in proposed paragraph (a) and (b) is virtually identical to the language in FAR 121.309(a) and (b). The FAA is not proposing to modify the existing language in 121.309(a) or (b). The FAA is not proposing to add a new requirement for a new type of emergency kit to the existing regulations. The FAA is simply proposing to add certain medications and medical supplies to the existing emergency medical kit contents. Creating new sections in a new subpart and duplicating existing language to apply the same restrictions to the same type of equipment is not necessary and will be confusing. The FAA has proposed to retain most of the emergency equipment requirements in FAR 121.309. That emergency equipment must be inspected,

located, identified, and marked according to the requirements in FAR 121.309(b). For whatever reason, the FAA has decided to establish a new subpart X that also contains emergency equipment requirements. The inspection, location, identification, and marking requirements in proposed 121.803 are duplicated from, and will remain in, FAR 121.309. First aid kits, emergency medical kits, and defibrillators are nothing more than items of emergency equipment. As such, and in order to retain consistency throughout the regulations, these items of emergency equipment should remain in 121.309 with other required items of emergency equipment. Alternatively, if the FAA intends to establish a separate subpart for emergency medical equipment only, the FAA should remove the other items of emergency equipment found in FAR 121.309 and establish separate subparts for fire extinguishers only, flotation equipment only, crash axes only, and megaphones only.

Segregating the emergency medical equipment requirements from the other emergency equipment requirements, and establishing a new subpart, will add needless complexity to an already complex set of requirements. It amounts to nothing more than an administrative encumbrance for air carriers and creates the potential for inadvertent errors. It appears that the NPRM may have been the first victim of the unnecessary complexity created in the FAA's proposal. The FAA is proposing to remove 121.309(d) and replace it with proposed 121.803(c). However, proposed 121.803(c)(2) will not be effective until 36 months after 121.309(d) has been removed. The NPRM, as written, will eliminate any requirement whatsoever for any kind of emergency medical kit to be installed on any airplane for the 36-month transition period. We do not believe the FAA intended this result but it does illustrate the importance of consistency and continuity between sections, and the errors that can result from needlessly complex rulemaking.

(4) 121.805 Crewmember training for in-flight medical events.

Crewmember training and air carrier training program requirements are currently described in subpart N. This subpart is inclusive of the crewmember specific training that is required for each duty position and each category of training. Air carrier training programs are complex and interrelated documents that have been developed to address the wide spectrum of training specified in subpart N. The FAA must approve these training programs. Segregating training requirements into a new subpart will be confusing and inconsistent with existing regulations. Any additional crewmember training requirement should be incorporated into subpart N and should not be added to a new subpart.

(a) The language in this section is similar to the language found in 121.417(a) with one significant difference. The training program that is referenced in 121.417(a) is defined as the training program required by 121.400(a). The training program that the FAA is proposing in 121.805(a) is unique to all other regulations that address crewmember training. This training

program is defined as, and limited in scope to, the training subjects specified in proposed 121.805(b). The training program required by 121.400(a) is limited in scope to the training subjects specified in subpart N, appendix E, and appendix F. The criteria for FAA approval of the training program required by 121.400 are defined in 121.401(a). The FAA has not specified whether or not the training program proposed in 121.805(a) requires FAA approval and the FAA has not specified any criteria for approval.

Creating a new subpart (X), a new section (805), and a new paragraph (a) causing a new requirement for a new training program to address training subjects that are, and will remain, the subject of Subpart N and Section 121.417 is unnecessary, and confusing. The proposed training requirements are nothing more than emergency training subjects. As such, any changes to require training related to emergency subjects should be included with other emergency training subjects listed in Section 121.417 and included in the training program required by Section 121.400(a).

(b) The training subjects that are required by proposed 121.185(b) must be included in the new training program required by proposed 121.805(a). The new training program required by proposed 121.805(a) will be in addition to the training program that is required by 121.400(a). Proposed 121.805(b)(1) will require instruction in procedures for responding to medical events including coordination among crewmembers. The training program required by 121.400(a) will continue to require the same training by virtue of 121.417(b)(1). The proposed paragraph will require air carriers to provide identical training to crewmembers under two separate training programs.

Proposed 121.805(b)(2) will require instruction in the location, function, and operation of emergency medical equipment. The training program required by 121.400(a) will continue to require the same training by virtue of 121.417(b)(2) because this section includes ALL emergency equipment installed on the airplane. The proposed 121.805(b)(2) and the new training program required by 121.805(a) together with the existing 121.417(b)(2) and the training program required by 121.400(a) will require air carriers to provide identical training to crewmembers under two separate training programs. Additionally, proposed 121.805(b)(2) will require pilots to receive instruction in the operation of all proposed emergency medical equipment. Flight attendants may encounter situations whereby they may become involved in providing medical treatment. However, flight crewmembers must remain in the cockpit and fly the airplane. Instruction for pilots in the operation of the first aid kit, the operation of the emergency medical kit, and operation of the AED will serve no purpose because pilots cannot be expected to assist with medical emergencies while the airplane is in flight.

The language in proposed 121.805(b)(3) is similar to 121.417(b)(3)(iv), which will be removed. By removing 121.417(b)(3)(iv) from subpart N and replacing it with proposed

121.805(b)(3) in subpart X, the FAA will permanently eliminate any requirement whatsoever for crewmember instruction in "*other abnormal situations*". Other abnormal situations are not defined by regulations but there is a substantial amount of guidance in FAA Order 8400.10 addressing the intent of the regulation. The Order includes such areas as abusive passengers, intoxicated passengers, passengers who might jeopardize safety, turbulence encounters, and crew coordination during abnormal situations as subjects that should be included during emergency training and required by existing 121.417(b)(3)(iv). The removal of existing 121.417(b)(3)(iv) from subpart N, together with the proposed addition of 121.805(b)(3) in proposed subpart X, will permanently eliminate any requirement for this training. We do not believe the FAA intended this result.

VI
SUMMARY AND REQUEST

1. **Limit the applicability of any part of this proposal to airplane operations that require more than one flight attendant crewmember.** It is not reasonable to expect a single flight attendant crewmember to use the AED, perform CPR, and administer intravenous drugs and other medication, while simultaneously performing safety related duties that are intended to ensure the safety of ALL passengers and required by other regulations. Applying the proposed regulations to operations requiring a single flight attendant may have the unintended effect of increasing the risk and/or introducing hazards for all persons on-board the aircraft.
2. **Limit the applicability of any part of this proposal to operations that will provide benefits comparable to those stated in the cost benefit analysis.** Clearly, the benefits that may be realized from this proposal diminish with airplane size and flight segment time. We are not aware of any study conducted for regional air carrier type aircraft or route systems. We believe that the FAA is obligated to ensure that those impacted by the regulation will realize the benefits of a proposed regulation. We do not believe the FAA has met this obligation insofar as the regional airline industry is concerned. We will be willing to assist the FAA in a study if we are given the opportunity to do so in the future.
3. **Review the proposed language to remove or restate proposed sections that appear to have unintended results.** Some of the proposed training requirements and some of the proposed emergency equipment requirements appear to eliminate other existing training and emergency equipment requirements. The FAA should carefully review the proposed regulations for consistency with other regulations and verify that, when taken as a whole, safety is not diminished.

4. **Any changes to regulations addressing emergency equipment requirements should be incorporated into existing subpart K.** The FAA is proposing to add new subpart X to part 121 that will address emergency medical equipment requirements. Other emergency equipment requirements will remain in existing subpart K. Creating a new subpart to address subjects that will remain the topic of another subpart will fragment regulatory requirements, create confusion, and add unnecessary regulatory complexity. Emergency medical equipment is nothing more than a specific kind of emergency equipment and, as such, should be included with other emergency equipment in subpart K.
5. **Any changes to regulations addressing crewmember training or air carrier training programs should be incorporated into existing subpart N.** The FAA is proposing to add new subpart X to part 121 that will address crewmember training requirements. Other crewmember training requirements, including emergency training, are found in subpart N. Creating a new subpart to address subjects that will remain the topic of another subpart will fragment regulatory requirements, create confusion, and add unnecessary regulatory complexity. Air carrier training programs are complex and interrelated documents that require FAA approval. Any changes to crewmember training requirements, or air carrier training programs, should be incorporated into existing subpart N.

Respectfully submitted,

CONTINENTAL EXPRESS, INC.

Fred Junek
VP Safety and Regulatory Compliance
1600 Smith Street, Dept. HQSCE
Houston, Texas 77002
713-324-4422